REMARKS

The Final Office Action mailed April 21, 2006, has been received and reviewed. Claims 1, 3 through 6, 8, 9, 10, 20, 22 through 25, 27, 28, and 29 are currently pending in the application. Claims 1, 3 through 6, 8, 9, 10, 20, 22 through 25, 27, 28, and 29 stand rejected. Applicants have amended claims 1, 6, 20, and 25, and respectfully request reconsideration of the application as amended herein.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 4,811,394 to Ragavan et al. in view of U.S. Pub. No. 2002/0089935 to Chan et al. in further view of U.S. Patent No. 6,487,181 to Johnson et al.

Claims 1, 3, 5, 6, 10, 20, 22, 24, 25, and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ragavan et al. (U.S. Patent No.4,811,394) in view of Chan et al. (U.S. Pub No. 2002/0089935) and in further view of Johnson et al. (U.S. Patent No. 6,487,181). Applicants respectfully traverse this rejection, as hereinafter set forth.

> M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:
> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of claims 1, 3, 5, 6, 10, 20, 22, 24, 25, and 29 are improper because the elements for a prima facie case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art reference must teach or suggest all the claims limitations.

Claims 1, 3, 5 and 20, 22, 24

Regarding amended independent claim 1 and claims 3 and 5 depending therefrom and amended independent claim 20 and claims 22 and 24 depending therefrom, Applicants' independent claims 1 and 20, as presently amended, includes claim limitations not taught or suggested in the cited references.

Applicants' independent claim 1, as presently amended, recites:

1. A method for scrambling information bits in a communications system, comprising:
determining a scrambling sequence in accordance with a metric of system time, wherein said determining a scrambling sequence includes ***determining the metric based on a subinterval of a system time interval in which the information bits are to be transmitted***; and
scrambling information bits with the determined scrambling sequence in accordance with the metric. (Emphasis added).

Applicants' independent claim 20, as presently amended, recites:

20. An apparatus for scrambling information bits in a communications system, the apparatus comprising:
means for determining a scrambling sequence in accordance with a metric of system time, wherein said determining a scrambling sequence includes ***determining the metric based on a subinterval of a system time interval in which the information bits are to be transmitted***; and
means for scrambling information bits with the determined scrambling sequence in accordance with the metric. (Emphasis added.)

The Office Action alleges:

As per claim 1, ...
Ragavan teaches that generating the scrambling sequence in accordance with a system clock [Fig. 1]. ***Ragavan doesn't expressively mention that metric of system time.*** However, Chan teaches that metric of system time [paragraph 0047, lines 1-5 "a channel condition estimation metric may be calculated using one or more metrics including frame error rate (FER) metric signal to noise ratio estimate (SNR) metric, energy per bit (Eb)/Thermal noise (Nt) estimate metric, and system time and/or finger time drift rate"]. Further, Chan teaches that the system time metric is a timing adjustment and for a given interval (i.e. metric in accordance with interval) [paragraph 0054]. (Office Action, pp. 2-3; emphasis added.)
Ragavan teaches that generating the scrambling sequence [Fig. 1] and Chen teaches the system time metric is a timing adjustment made for a given interval [paragraph 0054]. ***Ragavan and Chan don't expressively mention that a subinterval of a system time interval (i.e. time slot or slot) in which the information bits are to be transmitted.*** However, ***Johnson teaches that a subinterval of a system time interval (i.e. time slot or slot) in which the information bits are to be transmitted*** and ***determining the metric in accordance with a subinterval (i.e. time slot)*** [col. 2 line 38, 50-52, col. 8 lines 34-35]. (Office Action, p. 4; emphasis added.)
As per claim 20, it is an apparatus claim corresponds [sic] to a method claim 1 and is rejected for the same reason set forth in the rejection of claim 1 above. (Office Action, p. 7).

The Office Action concedes that the Ragavan reference and the Chan reference lack any teaching or suggestion of any "subinterval of a system time interval (i.e. time slot or slot) in which the

information bits are transmitted." While the Johnson reference may teach or suggest the concept of "a subinterval of a system time interval (i.e. time slot or slot) in which information bits are to be transmitted" as alleged in the Office Action, the Johnson reference clearly does not teach or suggest "determining the metric in accordance with a subinterval (i.e. time slot)" as alleged in the Office Action.

A precise reading of the teachings and suggestions of the Johnson reference reveals that the Johnson reference's "**determination**" of an error "**metric**" is based on an ***evaluation of the information or data*** that is ***carried in the time slot*** and **not** "***determining the metric based on a subinterval of a system time interval*** in which the information bits are to be transmitted" as claimed by Applicants and as specifically recited in Applicants' independent claims 1 and 20.

The Johnson reference teaches or suggests receiving information or data in a time slot and then assuming the time slot to be of the type that is non-truncated. The receiving device decodes the received data in the time slot using the known non-truncated approach. The decoded data is then re-encoded using the known encoding scheme to determine if the received encoded data matches, within an "error metric," the decoded and then re-encoded data. If the "error metric" is sufficiently small, then the nature of the time slot (i.e., non-truncated) is properly determined and the data in the time slot may be properly decoded. For a more rigorous explanation of the Johnson reference's teachings and suggestions, Applicants direct the Examiner's attention to the following citation:

> ... the **error metric** is determined by comparing the encoded time slot to the received time slot [wherein] time slots are encoded through the application of a redundancy scheme (i.e., the insertion of redundant bits after user information bits) [and] truncated time slots are encoded through the application of a redundancy scheme that is different from a redundancy scheme applied to non-truncated time slots. The communication device decodes and then encodes the received time slot by applying the redundancy scheme used for non-truncated time slots. The ***determination*** of whether the received time slot is a truncated time slot ... is then ***based on whether the encoded time slot matches a predetermined percentage of the received time slot, wherein the predetermined percentage is such that a match of greater than the predetermined percentage indicates a non-truncated time slot and a match of less than the predetermined percentage indicates a truncated time slot***.
>
> When the received time slot is determined to be a truncated time slot, the communication device processes (607) the user information symbols contained in the received time slot presuming the received time slot is a truncated time slot. In the preferred embodiment, when the received time slot is determined to be a truncated time slot, then the communication device decodes the received time slot using the redundancy scheme used for truncated time slots, converts the bit stream to an analog information signal, and transmits the analog information signal to the user of the communication device, and the logic flow ends (609). If the received time slot is determined to be a non-truncated time slot, then the communication device processes

> the user information symbols contained in the decoded time slot presuming the decoded time slot is a non-truncated time slot (608), and the logic flow ends (609). (Johnson, col. 8, line 37-col. 9, line 4; emphasis added.)

Therefore, since neither the Ragavan reference nor the Chan reference nor the Johnson reference, either individually or in any proper combination, teach or suggest Applicants' claimed invention including "***determining the metric based on a subinterval of a system time interval*** in which the information bits are to be transmitted", these references, either individually or in any proper combination, cannot render obvious, under 35 U.S.C. §103, Applicants' invention as presently claimed in amended independent claims 1 and 20. Accordingly, Applicants respectfully request the rejections of presently amended independent claims 1 and 20 be withdrawn.

The nonobviousness of independent claim 1 precludes a rejection of claims 3 and 5 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. Furthermore, the nonobviousness of independent claim 20 precludes a rejection of claims 22 and 24 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to amended independent claims 1 and 20 and claims 3, 5, 22, and 24 which respectively depend therefrom.

Claims 6, 10 and 25, 29

Regarding amended independent claim 6 and claim 10 depending therefrom and amended independent claim 25 and claim 29 depending therefrom, Applicants' independent claims 6 and 25, as presently amended, includes claim limitations not taught or suggested in the cited references.

Applicants' independent claim 6, as presently amended, recites:

> 6. A method for unscrambling information bits in a communications system, comprising:
> determining an unscrambling sequence in accordance with a metric of system time, wherein said determining an unscrambling sequence includes ***determining the metric based on a first subinterval of a system time interval preceding a second subinterval of the system time interval by a pre-determined number of subintervals***, the second subinterval including information bits to be unscrambled; and
> unscrambling information bits with the determined unscrambling sequence in accordance with the metric. (Emphasis added.)

Applicants' independent claim 25, as presently amended, recites:

25. An apparatus for unscrambling information bits in a communications system, the apparatus comprising:

means for determining an unscrambling sequence in accordance with a metric of system time, wherein said determining an unscrambling sequence includes ***determining the metric based on a first subinterval of a system time interval preceding a second subinterval of the system time interval by a pre-determined number of subintervals,*** the second subinterval including information bits to be unscrambled; and

means for unscrambling information bits with the determined unscrambling sequence in accordance with the metric. (Emphasis added.)

The Office Action alleges:

As per claim 6, ...

Ragavan teaches that generating the unscrambling sequence in accordance with system clock [Fig.2] and Chen teaches the system time metric that is a timing adjustment made for a given interval [paragraph 0054]. ***Ragavan and Chan don't expressively mention that a first subinterval of a system time interval preceding a second subinterval of the system time interval by a pre-determined number of subintervals, the second subinterval including information bits.***

However, ***Johnson teaches*** that a first subinterval of a system time interval preceding a second subinterval of the system time interval by a pre-determined number of subintervals [Fig.2, col. 3 lines 62-67, col. 4 lines 1-2], the second subinterval including information bits (user information) [Fig.2, col. 3 lines 65-67] and ***determining the metric in accordance with subinterval (i.e. time slot or slot)*** [col. 2 lines 50-52, col. 8 lines 34-35]. (Office Action, p. 6; emphasis added.)

As per claim 25, it is an apparatus claim corresponds [sic] to a method claim 6 and is rejected for the same reason set forth in the rejection of claim 6 above. (Office Action, p. 7).

Applicants herein sustain the above-proffered arguments regarding the lack of teaching or suggestion in any of the cited references to "determining the metric in accordance with a subinterval (i.e. time slot)" as alleged in the Office Action.

Applicants herein further reassert that a precise reading of the teachings and suggestions of the Johnson reference reveals that the Johnson reference's "**determination**" of an error "**metric**" is based on an ***evaluation of the information or data*** that is ***carried in the time slot*** and **not** "***determining the metric based on a subinterval of a system time interval***" as claimed by Applicants and as specifically recited in Applicants' independent claims 6 and 25.

As stated, the Johnson reference teaches or suggests receiving information or data in a time slot and then assuming the time slot to be of the type that is non-truncated. The receiving device decodes the received data in the time slot using the known non-truncated approach. The decoded data is then re-encoded using the known encoding scheme to determine if the received encoded data

matches, within an "error metric," the decoded and then re-encoded data. If the "error metric" is sufficiently small, then the nature of the time slot (i.e., non-truncated) is properly determined and the data in the time slot may be properly decoded.

Therefore, since neither the Ragavan reference nor the Chan reference nor the Johnson reference, either individually or in any proper combination, teach or suggest Applicants' claimed invention including ***"determining the metric based on a subinterval of a system time interval"***, these references, either individually or in any proper combination, cannot render obvious, under 35 U.S.C. §103, Applicants' invention as presently claimed in amended independent claims 6 and 25. Accordingly, Applicants respectfully request the rejections of presently amended independent claims 6 and 25 be withdrawn.

The nonobviousness of independent claim 6 precludes a rejection of claim 10 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. Furthermore, the nonobviousness of independent claim 25 precludes a rejection of claim 29 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to amended independent claims 6 and 25 and claims 10 and 29 which depend therefrom.

Obviousness Rejection Based on U.S. Patent No. 4,811,394 to Ragavan et al. in view of U.S. Pub. No. 2002/0089935 to Chan et al. in further view of U.S. Patent No. 6,487,181 to Johnson et al. and yet in further view of U.S. Patent No. 6,348,876 to Wei et al.

Claims 4, 9, 23 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ragavan et al. (U.S. Patent No. 4,811,394) in view of Chan et al. (U.S. Publication No. 2002/0089935) and further in view of Johnson et al. (U.S. Patent No. 6,487,181) and further in view of Wei et al. (U.S. Patent No. 6,348,876). Applicants respectfully traverse this rejection, as hereinafter set forth.

The nonobviousness of independent claim 1 precludes a rejection of claim 4 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

The nonobviousness of independent claim 6 precludes a rejection of claim 9 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

The nonobviousness of independent claim 20 precludes a rejection of claim 23 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

The nonobviousness of independent claim 25 precludes a rejection of claim 28 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to amended independent claims 1, 6, 20, 25 and claims 4, 9, 23, 28 which respectively depend therefrom.

Obviousness Rejection Based on U.S. Patent No. 4,811,394 to Ragavan et al. in view of U.S. Pub. No. 2002/0089935 to Chan et al. in further view of U.S. Patent No. 6,487,181 to Johnson et al. and yet in further view of U.S. Patent No. 4,677,617 to O'Connor

Claims 8 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ragavan et al. (U.S. Patent No. 4,811,394) in view of Chan et al. (U.S. Publication No. 2002/0089935) and further in view of Johnson et al. (U.S. Patent No. 6,487,181) and further in view of O'Connor (U.S. Patent No. 4,677,617). Applicants respectfully traverse this rejection, as hereinafter set forth.

The nonobviousness of independent claim 6 precludes a rejection of claim 8 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

The nonobviousness of independent claim 25 precludes a rejection of claim 27 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

Therefore, the Applicants request that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to amended independent claims 6, 25 and claims 8, 27 which respectively depend therefrom.

CONCLUSION

Claims 1, 3 through 6, 8, 9, 10, 20, 22 through 25, 27, 28, and 29 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,

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